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# ADVANCED PYELO-NEPHRITIS

IN AN INFANT.

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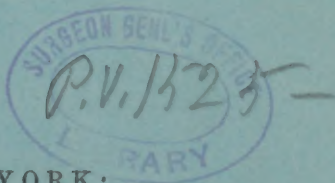
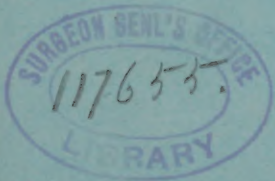
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[Reprinted from the AMERICAN JOURNAL OF OBSTETRICS AND DISEASES OF  
WOMEN AND CHILDREN, Vol. XXII., No. 7, 1889.]

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NEW YORK:  
WILLIAM WOOD & COMPANY, PUBLISHERS,  
56 & 58 LAFAYETTE PLACE.  
1889.



## ADVANCED PYELO-NEPHRITIS IN AN INFANT.<sup>1</sup>

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EXTENSIVE pyelitis and pyelo-nephritis are rare conditions in the very young, although the lesser degrees of these associated affections are commonly enough found at post-mortems. The infantile kidney responds more promptly than that of adults to renal irritants. The exhibition of various medicinal substances, the specific poisons of scarlet fever, diphtheria, and other infectious diseases, even simple pyrexia, are very apt to produce transitory renal disturbances, and at times more serious mischief. Indeed, it has recently come to be quite generally admitted that congestion of the kidneys, acute desquamative nephritis, and even parenchymatous and interstitial changes, occur in infancy and childhood with formerly scarcely suspected frequency.

Nevertheless, such extensive degenerative changes as were found in the case presently to be described must be quite rare in infants, for the simple reason that the factor of time is lacking for the development of these essentially chronic lesions. I make this statement not only in justification of the publication of this case, but also because contrary views have been expressed by some writers, and notably by Hüttenbrenner.<sup>2</sup>

From my own experience, which is a fairly large one, I am led to fully agree with Monti,<sup>3</sup> who says that Hüttenbrenner's opinion, in the absence of confirmatory statistics, is not entitled to acceptance.

For the history of this case I am indebted to Dr. Kerley, House Physician of the New York Infant Asylum (Mount Vernon branch).

<sup>1</sup> Read at the June meeting of the Manhattan Medical and Surgical Society.

<sup>2</sup> "Lehrbuch der Kinderheilkunde."

<sup>3</sup> Gerhardt's "Handbuch der Kinderkrankheiten," Vol. iv., Part iii., p. 426.





Lizzie N., aged two years, came under observation in October, 1888. The child appeared to be rather delicate, having a pasty look, flabby muscles, and a distended belly suggestive of rickets. The country air, a nutritious diet, the use of cod-liver oil and iron, appeared to effect a change for the better. She improved to such an extent that no particular attention was paid to her until April of this year. Then it was noticed that she became fretful, irritable, restless at night, and inclined to drowse in the daytime. Vomiting soon occurred once or twice every day, but the movements remained normal. The pulse and respiration showed no departure from the standard of health, but the child failed visibly and became rather emaciated.



FIG. 1.

A careful physical examination of the abdomen gave no clue to the causation of the vomiting, which was in no way influenced either by changes in her diet or the various remedies employed to check it.

Straining and retching now always occurred after food was taken, although stimulants were sometimes retained.

The vomiting was quite uncontrollable, and even the attempt to feed the child exclusively per rectum did not entirely check it.

On April 30th slight mucous diarrhea was noticed, and the rectal feeding was discontinued after May 1st. The irritability and vomiting continued, emaciation increased, and on May 8th the child died quietly, the temperature having for the first time throughout the course of the disease risen above the normal. At

2 P.M. the thermometer marked 102.4° F., at 5.30 P.M. it had risen to 104.6° F., and at 6 P.M. the child died.

Rigors, spasms, convulsions, or deep coma had not developed, and a diagnosis of kidney disease was not made during the lifetime of the patient. It may also be mentioned that mercurial inunctions were employed a few days before death, with the idea that they could not be harmful, and that the wasting of undemonstrable syphilis might possibly account for the rapidly progressive malnutrition. No effect whatever was produced by the mercurial.

At the autopsy the following observations were made: The body was very pale and much, though not extremely, emaciated.

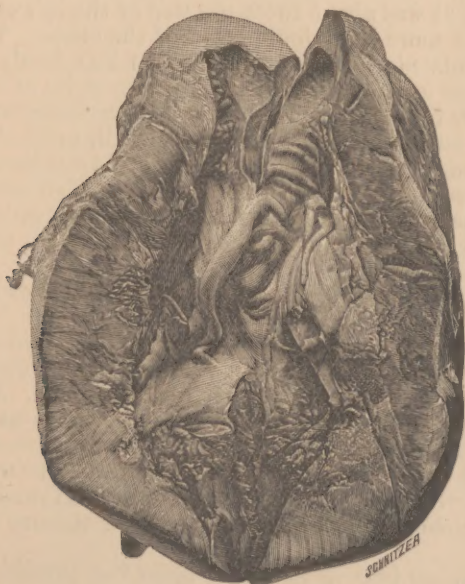


FIG. 2.

The lungs showed moderate hypostatic congestion, with incipient pneumonia posteriorly on the left side. The base of the right lung was rather firmly adherent to the diaphragm.

The heart was small and bloodless, but otherwise normal.

There was no fluid in the abdominal cavity. The spleen was very small, pale, and flabby.

The stomach was large, its mucous membrane somewhat thickened and presenting numerous superficial ecchymoses. The intestines were pale, except in a few places where small areas of congestion of the mucosa were seen.

The liver was large, succulent, and friable. Numerous pale yellowish islands indicated disseminated fatty changes.

The condition of the urinary organs merits a more detailed description. The left kidney was small and flat (see Fig. 1). Externally it appeared lobulated, but the lobules were much larger than those of ordinary granular kidneys. The capsule was adherent in places. On section, turbid urine mixed with pus and mucus flowed out. The renal pelvis was much distended, and the calices were converted into a series of large and deep intercommunicating pockets. But little remained of the proper structure of the kidney. The medullary and interpyramidal portions were almost entirely destroyed. The narrow remnant of cortical substance was in a condition of infiltration and degeneration, such as is seen in adult "surgical kidney." Phosphatic deposits or concretions were not found in this organ. The right kidney (Fig. 2) was about twice the size of the left one, and its thickness was more than double that of the other. The surface was also lobulated, but the capsule was less firmly adherent. The pelvis was enormously distended, and a series of pouches extended deeply into the renal substance. The latter was less profoundly altered than the other kidney. Still, most of the pyramids appeared to be transformed into a semi-translucent, yellowish, gelatinous substance, with no trace of renal structure visible. Although the mucous lining of the pelvis and calices showed numerous ecchymoses, concretions or "sand" were nowhere discoverable.

Both ureters were enlarged and thickened, but showed no other abnormality.

The bladder contained about two ounces of turbid urine, with flakes and shreds of stringy pus and mucus. The organ was very much enlarged and its walls greatly hypertrophied. At the neck of the bladder this hypertrophy was so enormous as to suggest the presence of a neoplasm. The urethra was narrow but quite pervious, and an obstacle to the outflow of the urine was nowhere to be seen. No congenital malformation was found, and altogether the etiology of the case has remained obscure to me.

It seems to me idle to speculate upon the possible causation of the advanced processes of degeneration here encountered. Perhaps the hypertrophy of the bladder should be regarded an idiopathic one in the absence of a demonstrable exciting cause. The pyelitis and pyelo-nephritis would then be secondary to the vesical trouble, and, looked at in this way, the case is not entirely unintelligible. The rarity of such an occurrence in a female infant will, I believe, be admitted even by those whose experience is much larger than my own.

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